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## (54) HEAT RESISTANT TI-BASED ALLOY

## (57)Abstract:

**PURPOSE:** To improve the oxidation resistance of an Al-Cr diffusion coating layer by forming the Al-Cr diffusion coating layer having a specified compsn. on the surface of a Ti-Al alloy.

**CONSTITUTION:** An Al-Cr diffusion coating layer constituted of, by weight, 50 to 65% and 0.5 to 7% Cr, and the balance Ti is formed on the surface of a Ti-based alloy contg. about 14 to 36% Al. As for the formation for this Al diffusion coating layer, diffusion coating by a powdery method, a thermal spraying method, a build up welding, a PVD method, a CVD method, etc., can be adopted. The thickness of the coating layer is suitably regulated to about 15 to 300 $\mu$ m. Furthermore, in the case the Al-Cr alloy layer is formed on the surface layer of the Ti-based alloy base metal, the alloy layer is brought into a diffusion reaction in the using process in a high temp. oxidizing atmosphere to form the Al-Cr diffusion coating layer, by which oxidation resistance is manifested.

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